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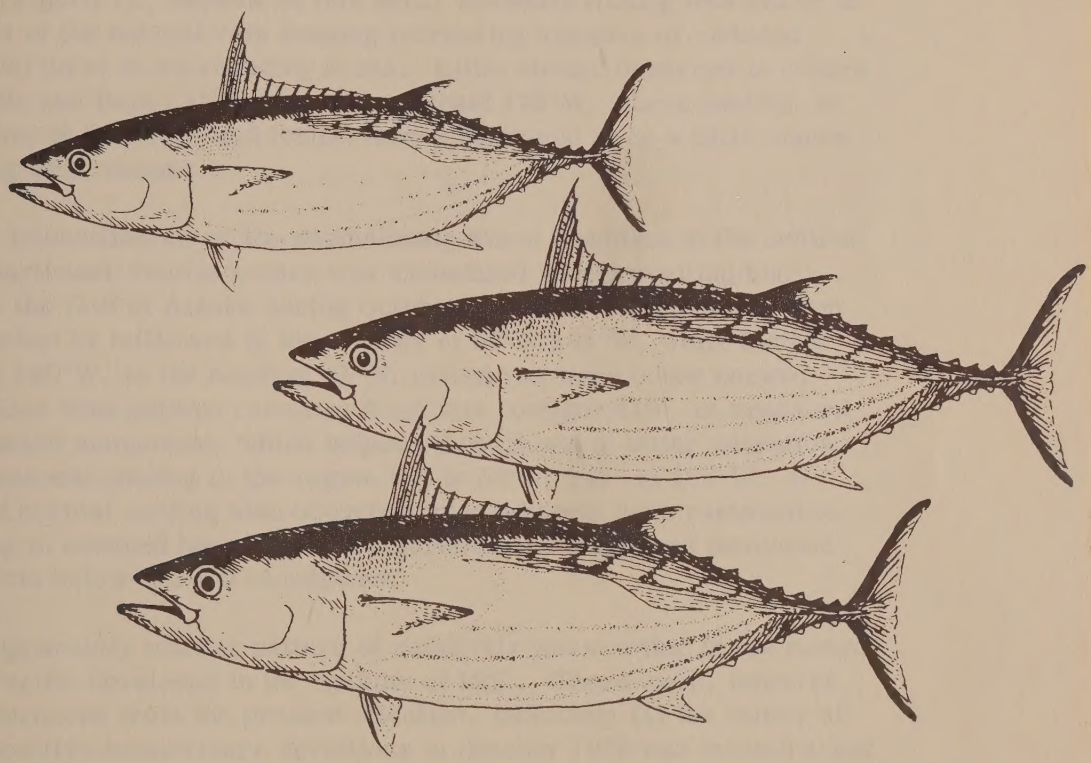
OCTOBER 1972, No. 10

FISHING INFORMATION

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



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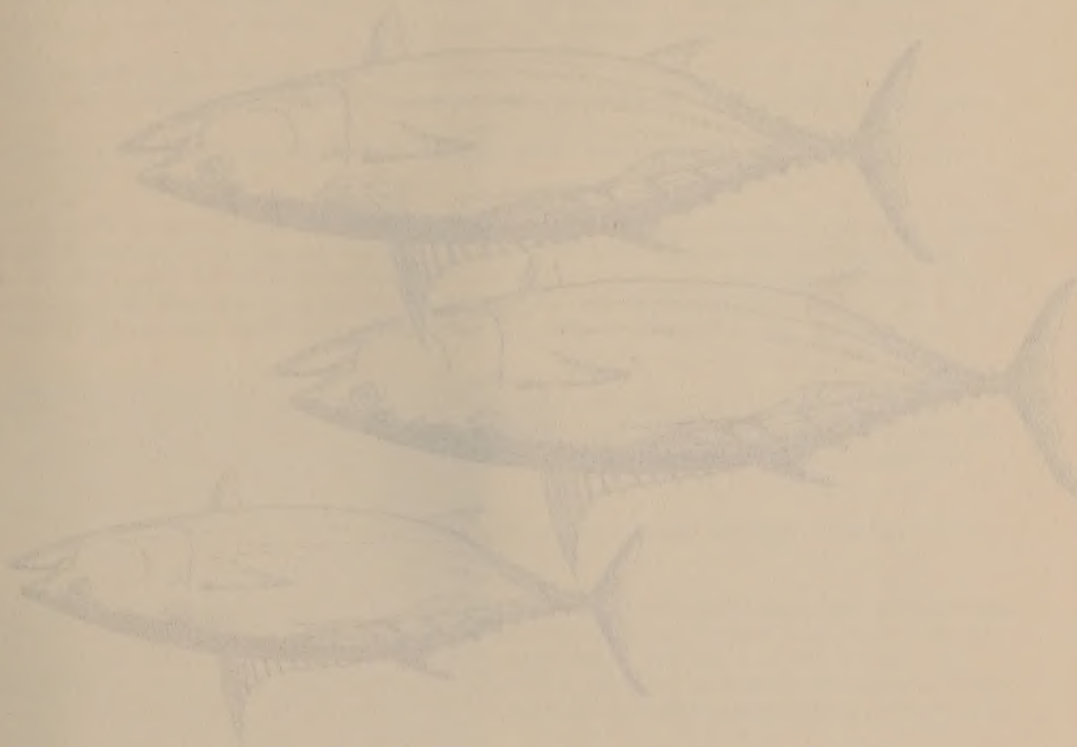


NARRATIVE DESCRIPTION OF OCEAN TEMPERATURE CONDITIONS
OCTOBER 1972

Northeastern Pacific

Seasonal cooling of sea surface temperatures from September to October, 1972, was well below the normal rate in a large central ocean region from 140°W to 160°W, between latitudes 35° and 50°N. Consequently, a well defined area of positive departures from the long term mean developed in October (Figure 7). Outside of this area, seasonal cooling was either at or in excess of the normal rate causing increasing negative or reduced positive departures in surrounding areas. Little change occurred in waters off California and Baja California out to at least 125°W, where cooling is normally slow in October, and temperatures continued to be a little higher than the long term means.

The intensification of the anomalously warm condition in the central portion of northeast Pacific waters was associated with prevailing high pressure in the Gulf of Alaska during October. Positive departures from normal reached 14 millibars in the vicinity of 55°N, 145°W, while farther west, along 165°W, to the south of 45°N, pressures were below normal. The anomalous wind pattern resulting from this configuration of pressure had a northward component, which helped, through warm water advection, to retard seasonal cooling in the region 35° to 50°N, 140° to 160°W. A reduction of normal cooling also occurred in an adjacent area eastward to 135°W owing to reduced heat loss by evaporation and increased insolation resulting from below-normal cloudiness.

An apparantly similar pattern of relatively warm water in the central northeast Pacific developed in the Autumn of 1971. There were, however, several differences from the present situation, including: (1) the center of maximum positive temperature deviations in October 1972 was located about 5 degrees east and 5 degrees north of the corresponding feature in 1971, and (2) negative deviations from normal prevailed in a broad zone adjacent to the coast in 1971 while, this year, both positive and negative deviations are present.

The large scale circulation patterns in the upper atmosphere have undergone a gradual eastward shift since September 1972. If this movement continues, the anomalous warm temperatures are also expected to shift eastward in response to changing advective and air-sea heat exchange processes at the surface which would tend to erode the warm condition on the west side and build it up on the east.

SUBSURFACE TEMPERATURE STRUCTURE IN THE NORTHEAST PACIFIC OCEAN

Due to equipment problems, only a partial section of subsurface temperature between San Francisco and Honolulu was obtained at the beginning of October (Figure 1) and several observational failures occurred in the section for October 14-17, 1972 (Figure 2).

The deterioration of the transition zone, as a distinctive region between the California Current and Pacific Central Water, has continued to such a degree that it is now difficult to identify a transition zone. There is a gradual progressive change in the vertical temperature structure from stations near the California Coast westward for over 1000 miles. Beyond that distance the vertical temperature structure is characteristic of the Eastern North Pacific Central Water. Using surface salinity values between 34 and 35‰ as an alternate criteria for identification, the transition zone lies in the general region between 600 and 1000 miles from the California Coast. This is approximately the same as in September.

The depth of the mixed layer remained the same as in September out to about 1200-1300 miles rather than deepening as anticipated in last month's issue. In fact, beyond 1300 miles the layer depth has decreased. This is probably a reflection of lighter winds, which occurred at the time of the observations, so that less energy was available for mixing of the surface layer.

Eastern Tropical Pacific

Sea surface temperatures continued to be at least 2°F (1°C) above normal off northern Peru and Ecuador and westward in the equatorial zone to 155°W. Maximum positive deviations, exceeding 6°F (3°C), occurred 250-300 miles off the South American coast at latitudes 5° to 8°S, and within a few degrees north and south of the equator between longitudes 100°W and 110°W. Continued weak southeast trades and below-normal cloud cover in the equatorial region contributed to the maintenance of the warm surface temperature anomaly.

Deviations elsewhere were generally of smaller magnitude, however, reduced winds and cloudiness relative to normal caused the condition of warmer-than-normal temperatures to spread over nearly all of the eastern tropical Pacific north of the equator. The small area of relatively cold water southwest of the tip of Baja California was left in the wake of Hurricane Joanne and two small chubascos which followed in her path.

Staff, Fishery-Oceanography Investigations
R. Michael Laurs, Leader

SEA SURFACE TEMPERATURE CHARTS, PACIFIC OCEAN
OCTOBER 1972

Acknowledgements

The following organizations and stations contributed data for October charts:

Hopkins Marine Station, Pacific Grove, California, J. P. Balesteri
Kelco Company, San Diego, California
Living Marine Resources Inc., San Diego, California
National Oceanic and Atmospheric Administration
National Marine Fisheries Service, La Jolla, California: Honolulu, Hawaii
National Weather Service, San Diego, California
National Ocean Survey, Pacific Marine Center, Seattle, Washington
Pacific Environment Institute, Fisheries Research Board of Canada, West Vancouver, British Columbia, by H. J. Hollister from observations by S. G. Westhaver at Langara Island Light; J. Godin at Cape St. James Light; L. Collins at Kains Island Lightstation; O. A. Edwards at Amphitrite Point Light
Scripps Institution of Oceanography, La Jolla, California, by Margaret Robinson
U.S. Naval Weather Service, Fleet Numerical Weather Central, Monterey, California
Fishing vessels, Bold Contender, Carol S., City of San Diego, Conquest, Eastern Pacific, Elizabeth C. J., Gemini, Independence, Kathleen, Kerri M., Kitty Hawk, Larry Roe, Lois Seaver, Lou Jean II, Marco Polo, Mariette, Mary Antonette, Mary Barbara, Neptune, Queen Mary, San Juan, Saratoga, Trinidad, Venturous, Vivian Ann

Expendable bathythermograph observations are made by the Mates of the S.S. Hawaiian Enterprise of Matson Navigation Co., and processed with assistance from the NMFS Pacific Environmental Group, Monterey: Project partially supported by National Science Foundation Grant AG-256.

Charts

Figure 1. --Surface temperature and salinity and subsurface temperature structure from expendable bathythermograph observations between San Francisco and Honolulu: September 30 - October 2, 1972.

Figure 2. --Surface temperature and salinity and subsurface temperature structure from expendable bathythermograph observations between San Francisco and Honolulu: October 14 - 17.

Figure 3. --Twelve-year mean (1961-1972) observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots) and average wind speed (knots) regardless of direction.

Figure 4. --Observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots) and average wind speed (knots) regardless of direction.

Figure 5. --Mean sea surface temperature, eastern North Pacific Ocean. Squares show temperatures at weathership stations. Numerals on shore are temperatures at coastal and lightship stations.

Figure 6. --Mean sea surface temperature chart, western North Pacific Ocean.

Figure 7. --Deviation of sea surface temperatures, eastern North Pacific Ocean from long-term charts of H.O. 225. Hatched areas are colder in 1972.

Figure 8. --Deviation of sea surface temperatures, eastern North Pacific Ocean from those of October 1971. Hatched areas are colder in 1972.

Figure 9. --Mean sea surface temperature, eastern tropical Pacific Ocean. Numerals on shore are temperatures at coastal stations.

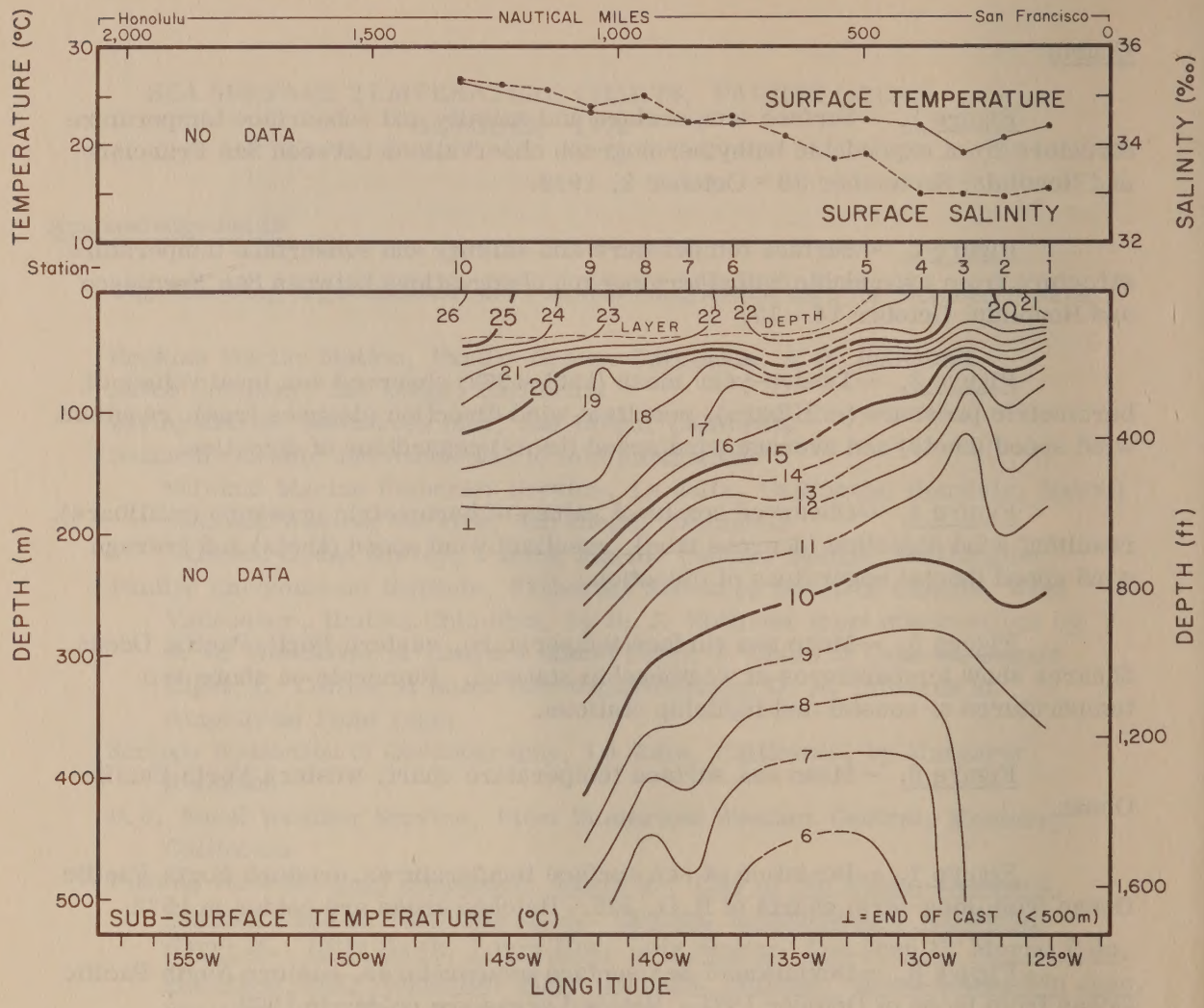
Figure 10. --Deviation of sea surface temperatures, eastern tropical Pacific Ocean from long-term charts of H.O. 225 and NAVOCEANO sp-123. Shaded areas are colder in 1972. Contours are dashed in sparse data areas.

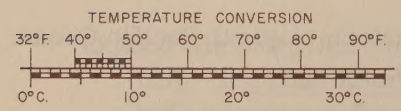
Figure 11. --Deviation of sea surface temperatures, eastern tropical Pacific Ocean from those of October 1971. Shaded areas are colder in 1972. Contours are dashed in sparse data areas.

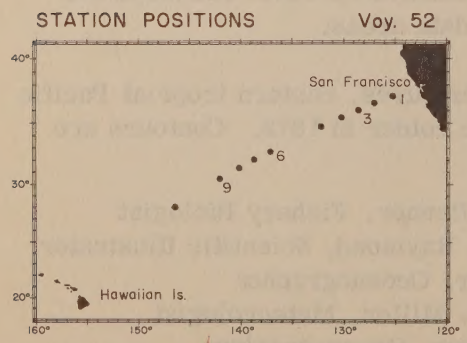
James A. Renner, Fishery Biologist
Kenneth S. Raymond, Scientific Illustrator
L. E. Eber, Oceanographer
Forrest R. Miller, Meteorologist
J.F.T. Saur, Oceanographer
November 10, 1972

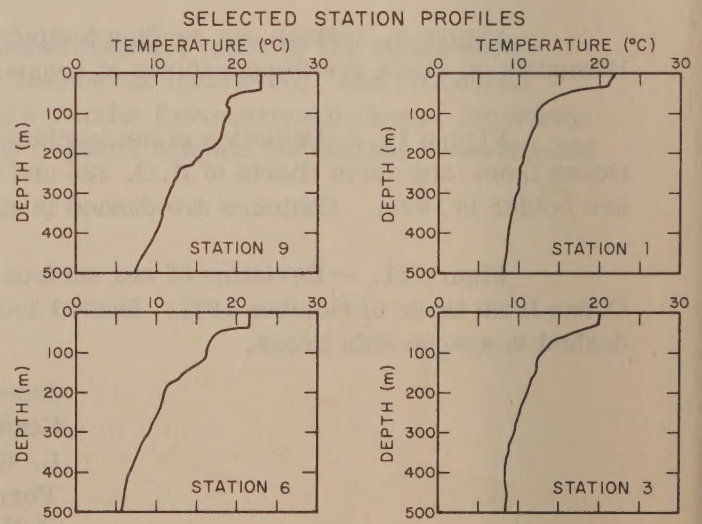
SEPTEMBER 30–OCTOBER 2, 1972
SS HAWAIIAN ENTERPRISE, Voyage 52

FIGURE 1.



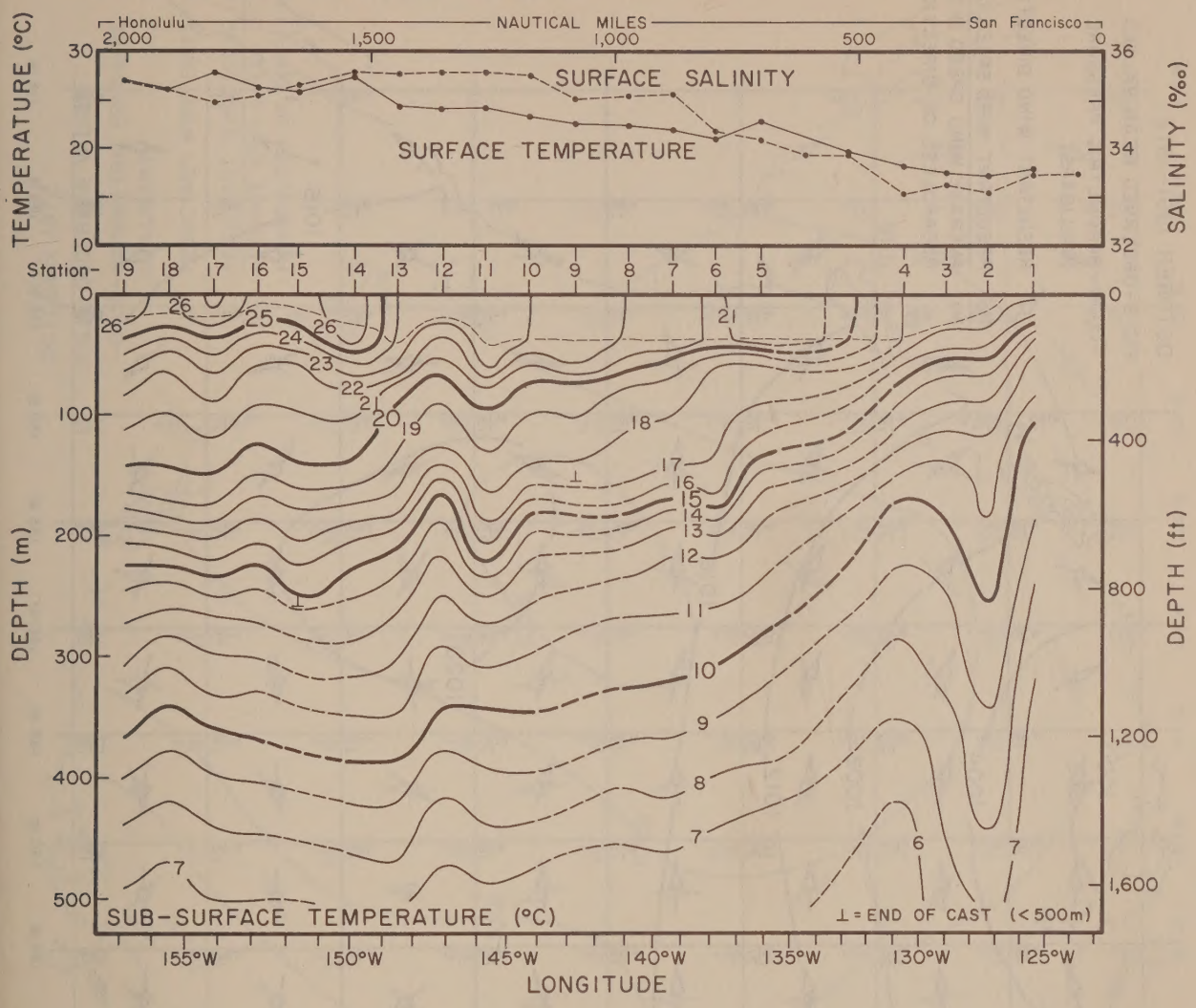


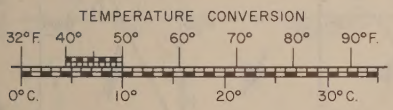


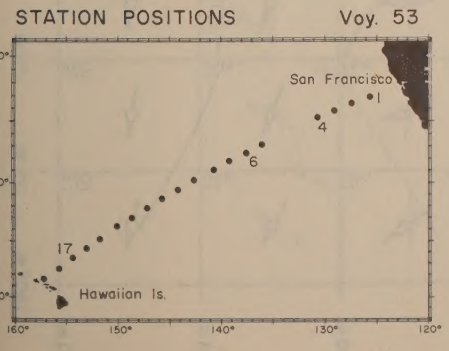


OCTOBER 14–17, 1972
SS HAWAIIAN ENTERPRISE, Voyage 53

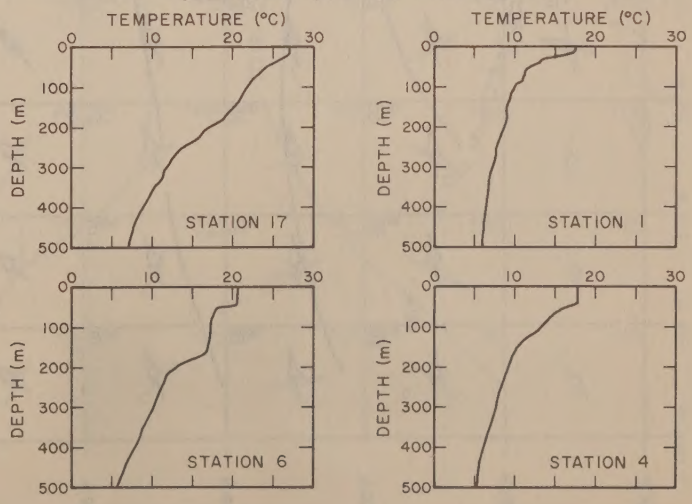
FIGURE 2.

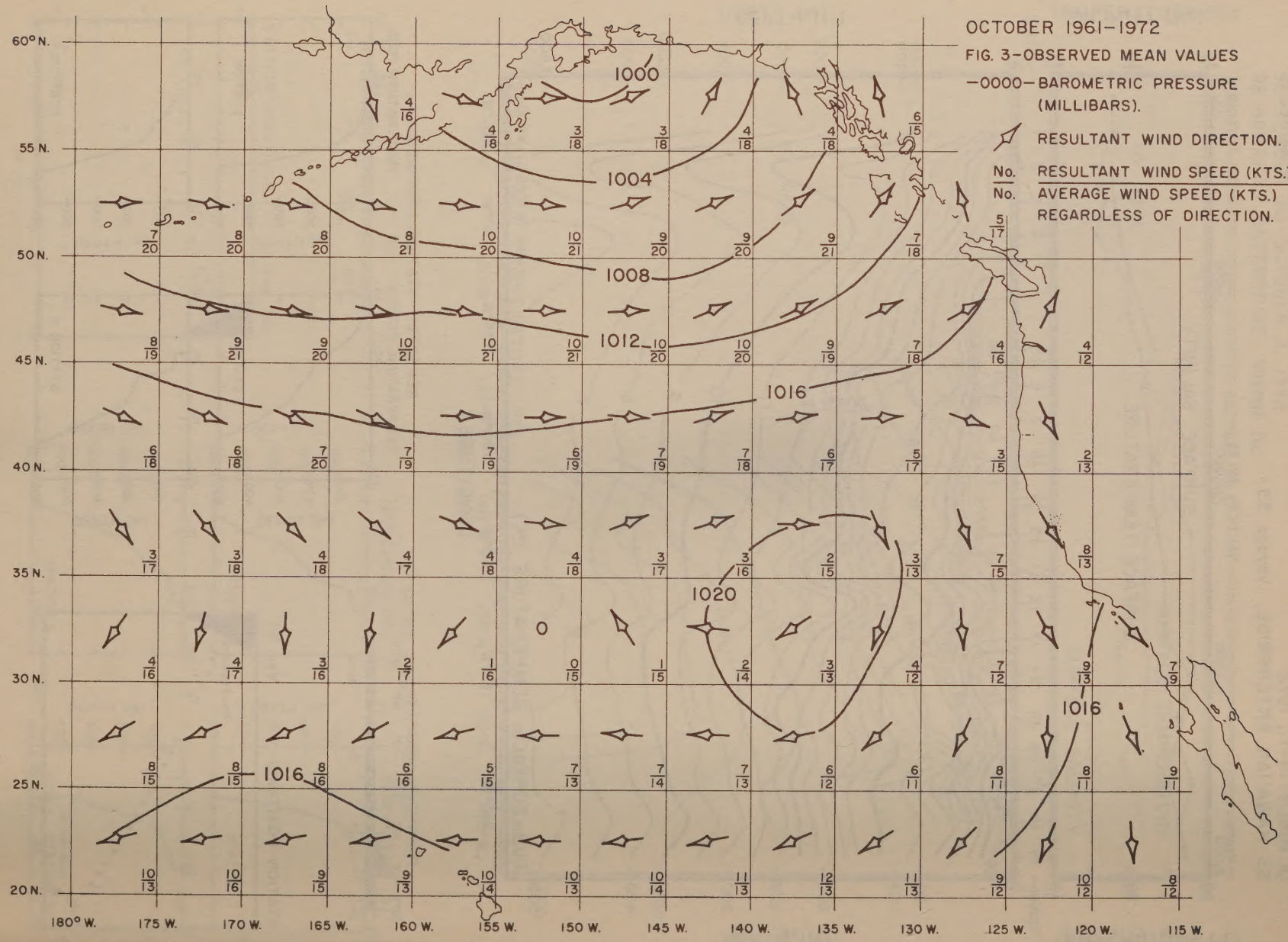


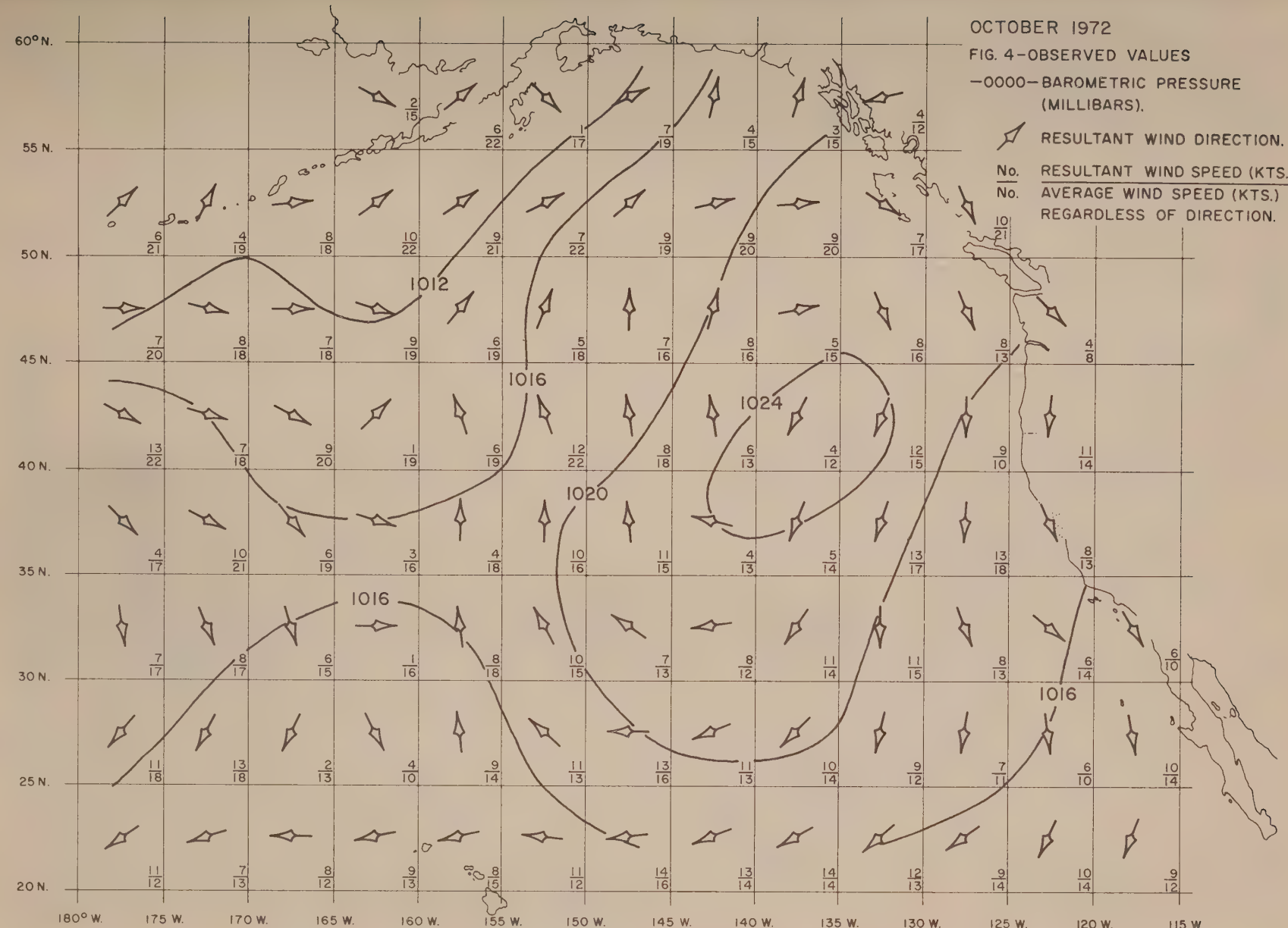


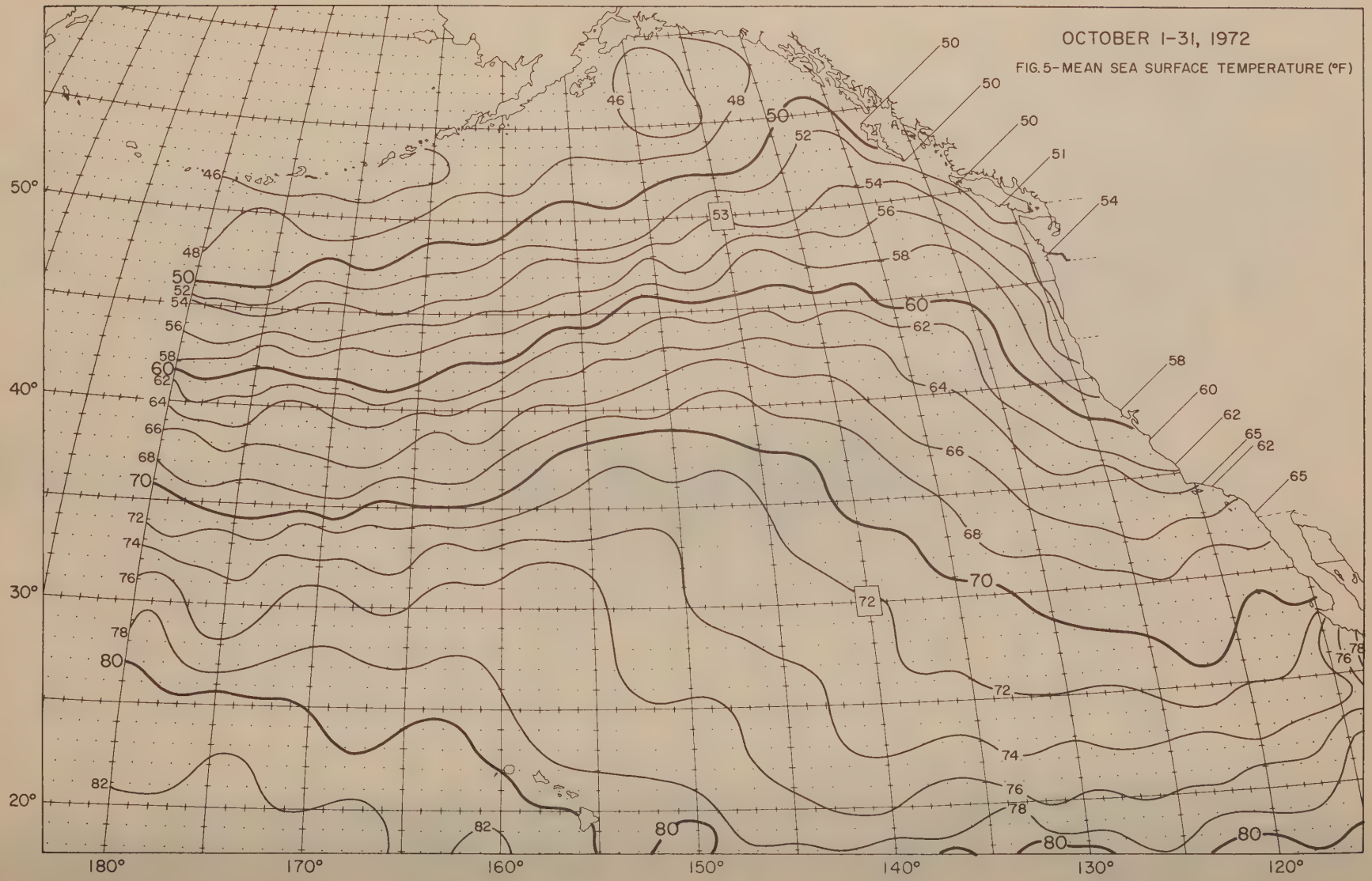


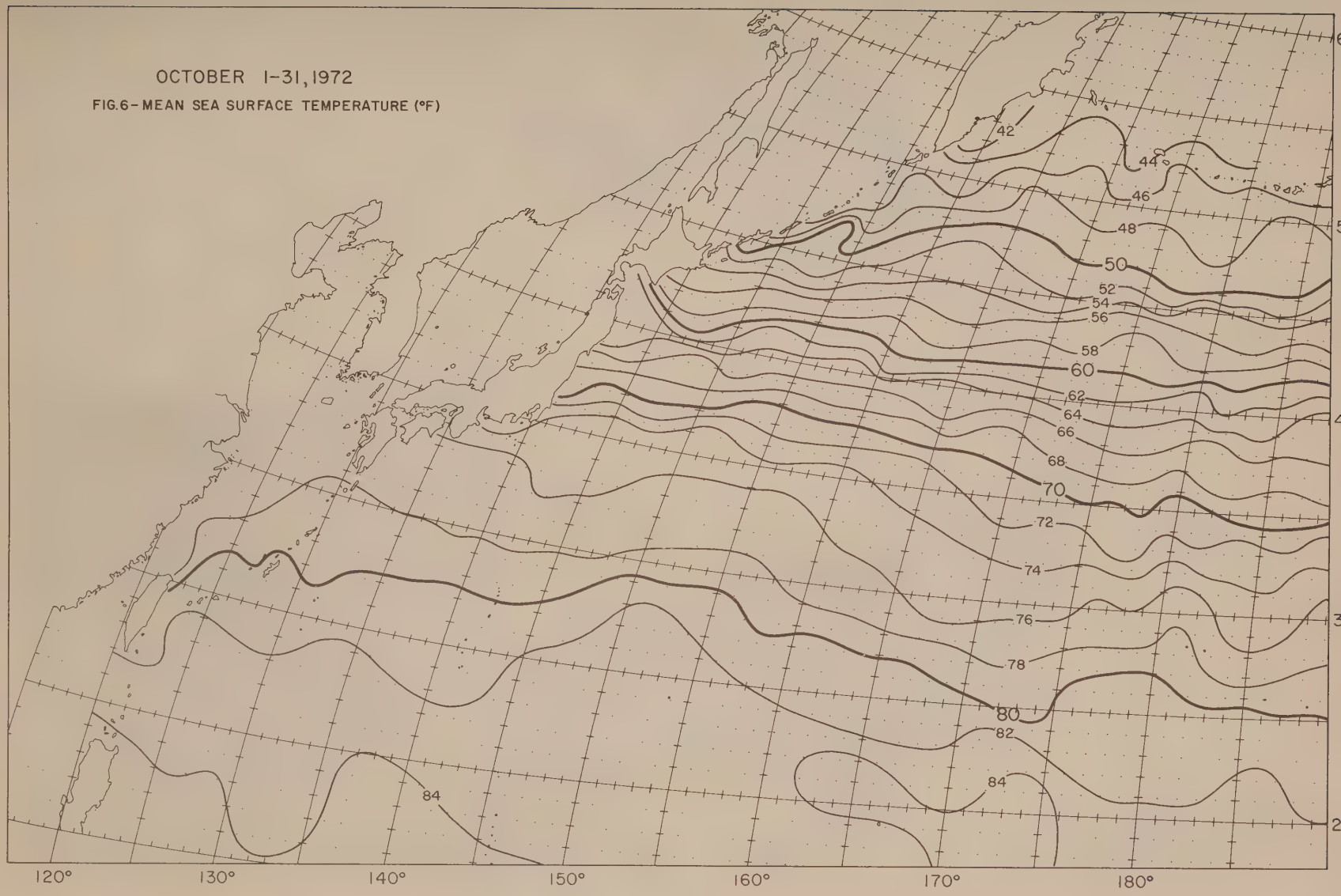
SELECTED STATION PROFILES

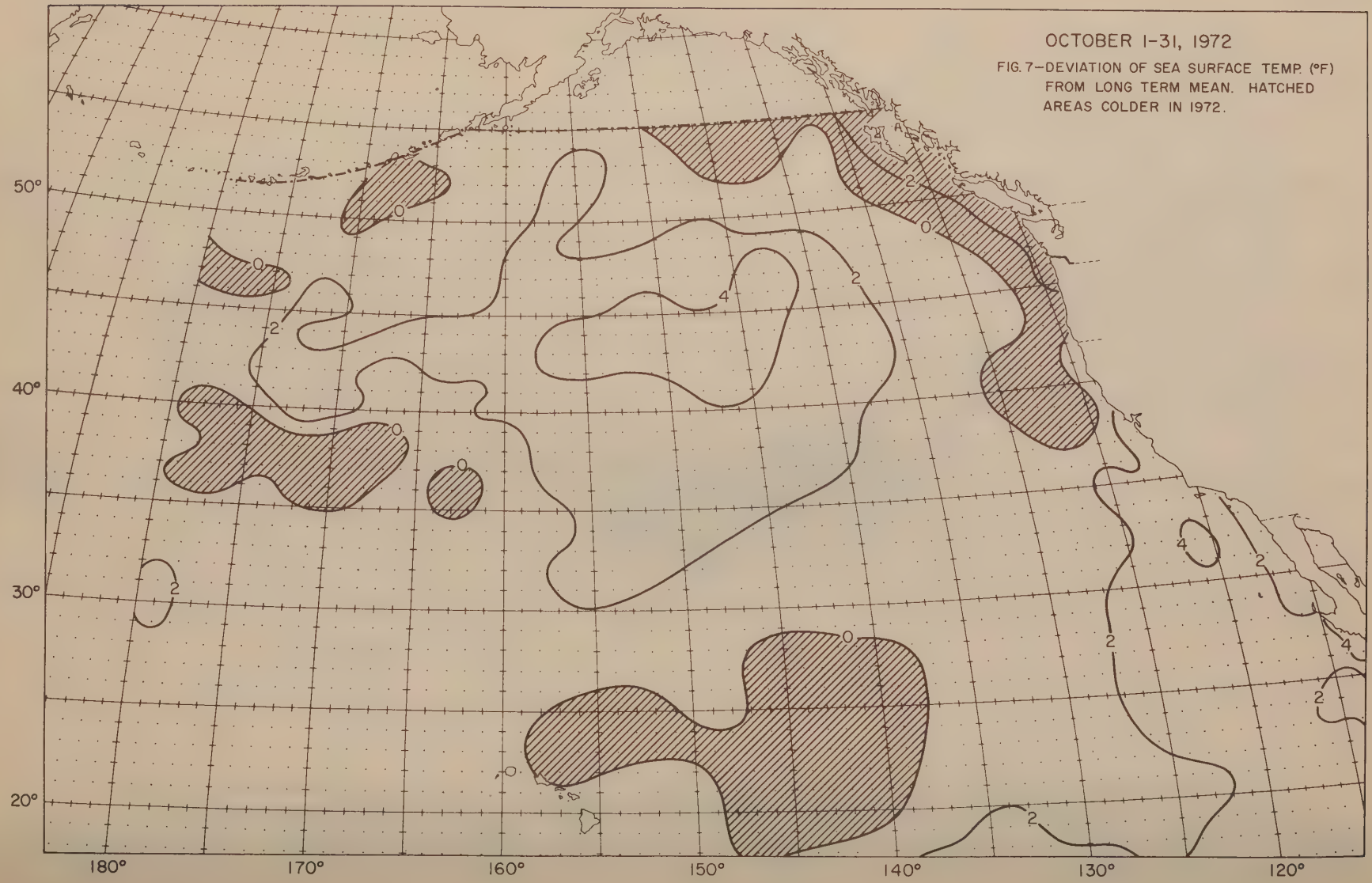


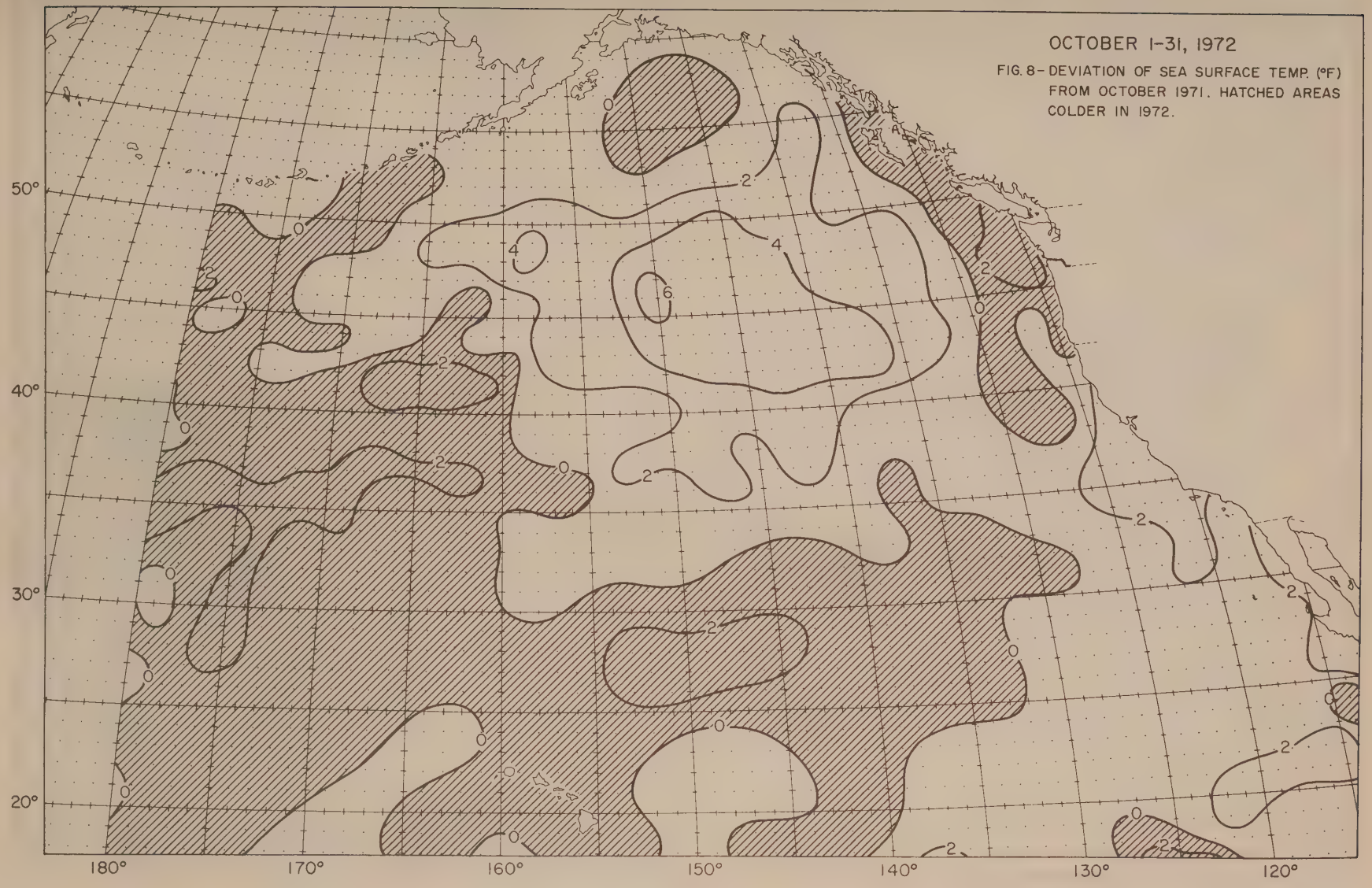

OCTOBER 1961–1972
FIG. 3–OBSERVED MEAN VALUES
—0000— BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.).
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1000
1004
1008
1012
1016
1020
1016
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.

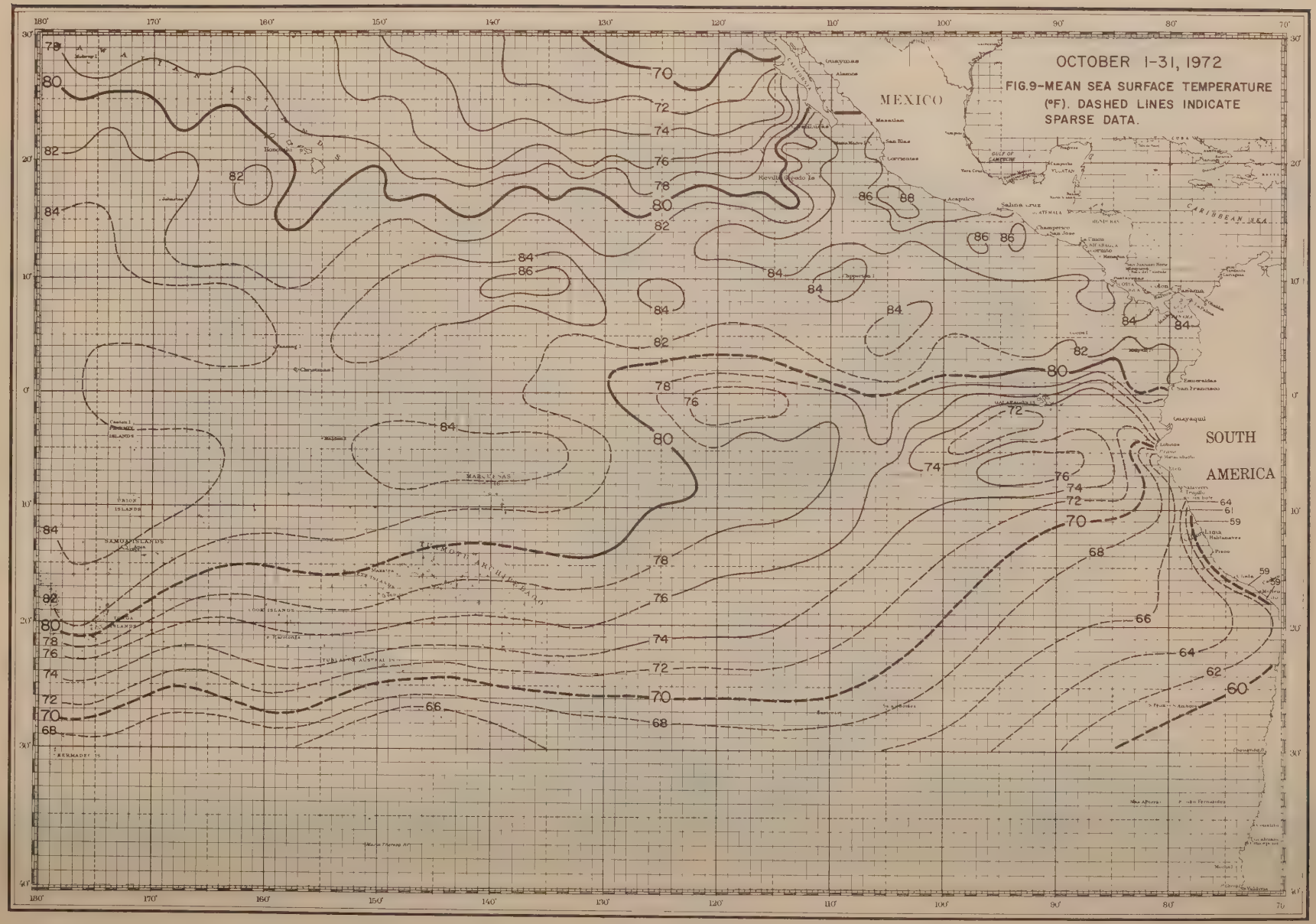

OCTOBER 1972
FIG. 4-OBSERVED VALUES
—0000— BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.).
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1012
1016
1024
1020
1016
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.

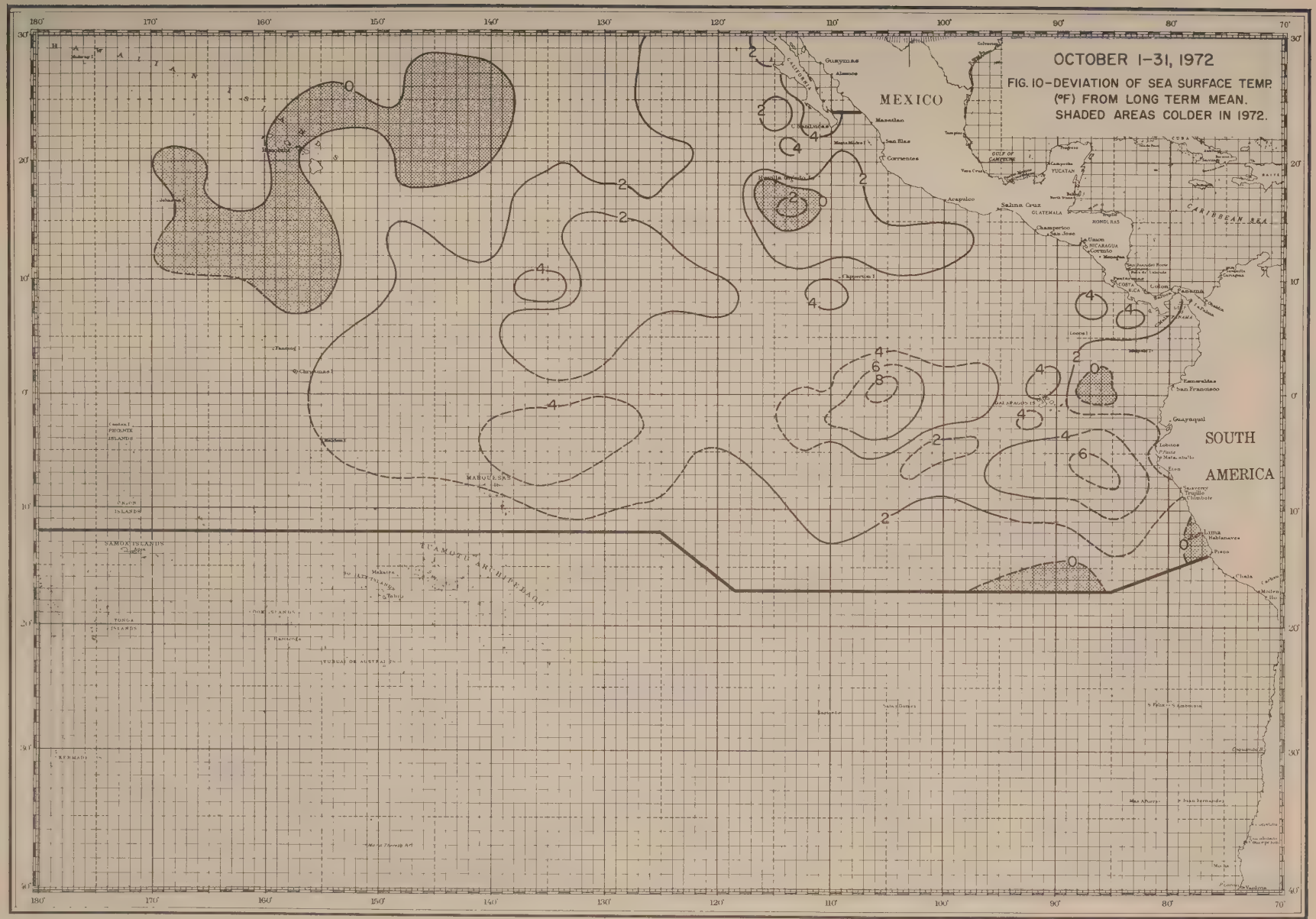

OCTOBER 1-31, 1972
FIG. 5-MEAN SEA SURFACE TEMPERATURE (°F)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°

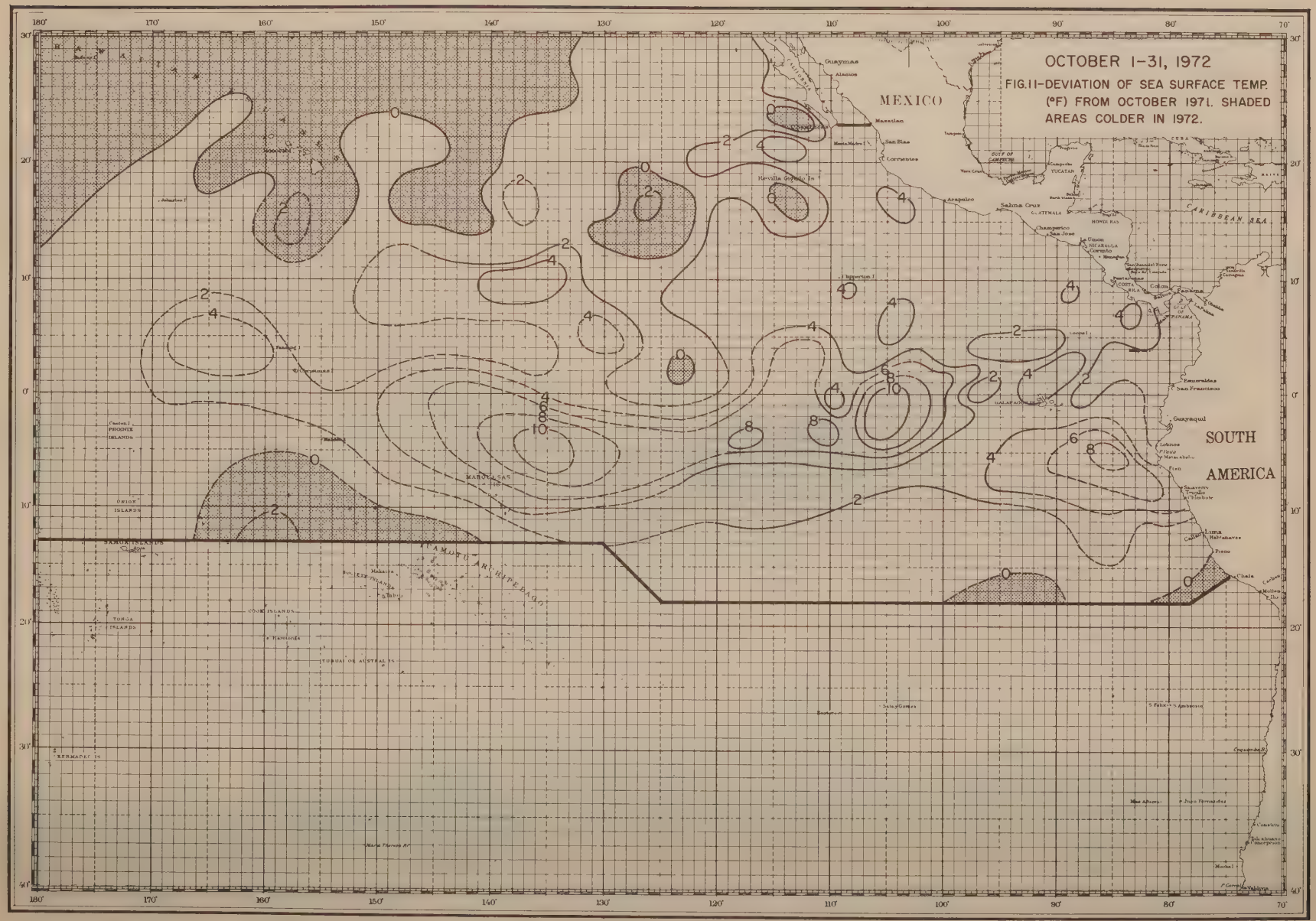

OCTOBER 1-31, 1972
FIG.6-MEAN SEA SURFACE TEMPERATURE (°F)
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
84
84
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°

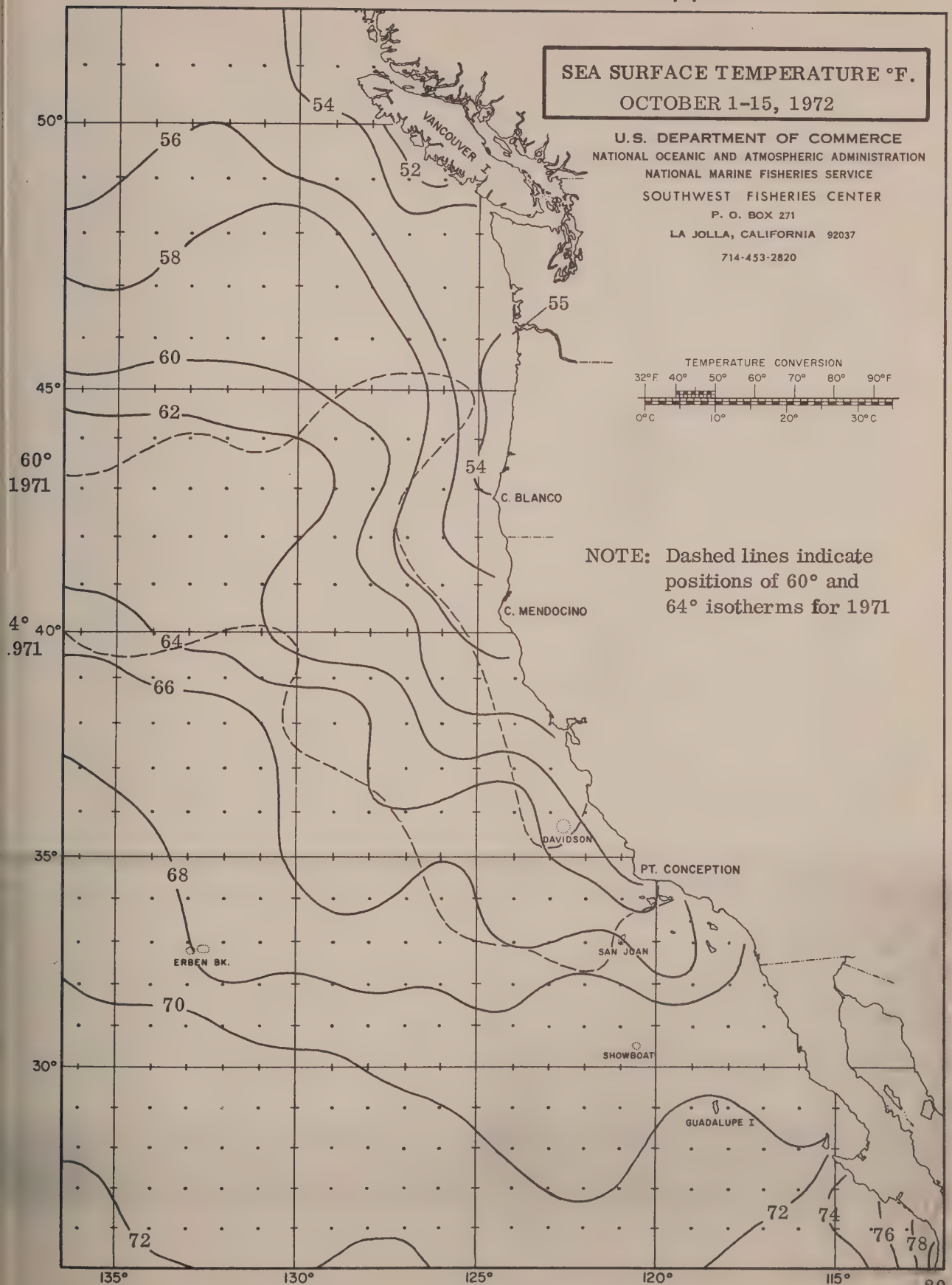

OCTOBER 1-31, 1972
FIG. 7—DEVIATION OF SEA SURFACE TEMP. (°F) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1972.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
0
2
4


OCTOBER 1-31, 1972
FIG. 8- DEVIATION OF SEA SURFACE TEMP. (°F) FROM OCTOBER 1971. HATCHED AREAS COLDER IN 1972.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°

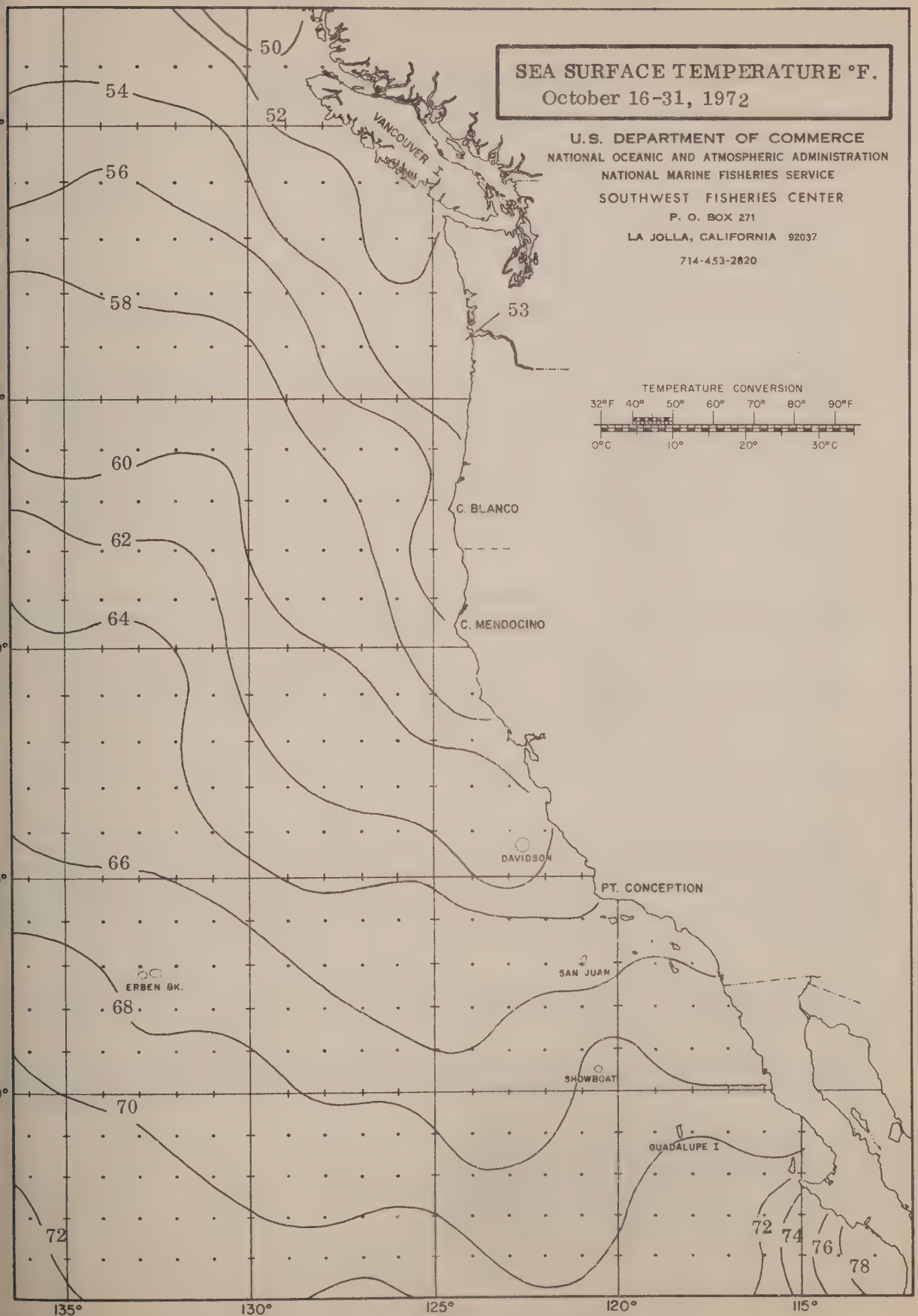

OCTOBER 1-31, 1972
FIG.9-MEAN SEA SURFACE TEMPERATURE (°F). DASHED LINES INDICATE SPARSE DATA.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
HAWAIIAN ISLANDS
SAMOA ISLANDS
COOK ISLANDS
MARQUESAS
TUAMOTU ARCHIPELAGO
TUBUAI AUSTRAL IS.
BERMADEZ IS.
Guayaquil
Lima
Callao
Panama
Acapulco
Salina Cruz
Manzanillo
San Francisco
Esmeraldas
Puerto Limon
Honolulu
Christmas
Fanning I.
Palmyra I.
Jarvis I.
Johnston I.
Howland I.
Baker I.
Canton I.
Enderbury I.
Phoenix Islands
Union Islands
Tahiti
Rarotonga
Easter I.
Juan Fernandez Is.
Pisco
Chimbote
Salaverry
Trujillo
Lobitos
Talara
Matachuelo
Ancon bote
Callao
Habanaves
Chancay
Huacho
Supe
Casma
Chimbote
Salinas
Manta
Puerto Limon
Cocos I.
Malpelo I.
Gorgona I.
Gorgonilla I.
Tumaco
Buenaventura
Cabo Corrientes
Guaymas
Alamos
Mazatlan
San Blas
Puerto Vallarta
Manzanillo
Zihuatanejo
Acapulco
Salina Cruz
Champerico
San Jose
Tiburon I.
Corinto
Puntarenas
Panama
Coiba I.


OCTOBER 1-31, 1972
FIG. 10-DEVIATION OF SEA SURFACE TEMP. (°F) FROM LONG TERM MEAN. SHADED AREAS COLDER IN 1972.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CALIFORNIA
GULF OF CAMPECHE
GUATEMALA
HONDURAS
COSTA RICA
NICARAGUA
PANAMA
CUBA
HAITI
JAMAICA
Acapulco
Salina Cruz
Champerico
San Jose
Corinto
Managua
Limon
Balboa
Cristobal
Manzanillo
Mazatlan
San Blas
Guaymas
Almejas
Magdalena
Cabo San Lucas
Puerto Vallarta
Tehuantepec
Progreso
Campeche
Veracruz
Tampico
Havana
Kingston
Port au Prince
Cap Haitien
Guayaquil
Esmeraldas
San Francisco
Salaverry
Trujillo
Chimbote
Lima
Callao
Pisco
Chala
Mollendo
Arica
Iquique
Antofagasta
Valparaiso
Juan Fernandez
Easter I.
Galapagos Is.
Cocos I.
Clipperton I.
Revillagigedo Is.
Socorro I.
Roca Partida
Islas Marias
Isabel I.
Tres Marias Is.
Marquesas Is.
Tuamotu Archipelago
Society Is.
Tahiti
Samoa Islands
Tonga Islands
Kermadec Is.
Tubuai Is.
Rapa
Pitcairn I.
Henderson I.
Ducie I.
Oeno I.
Mangareva
Gambier Is.
Raivavae
Rurutu
Rimatara
Rarotonga
Aitutaki
Manuae
Penrhyn
Nassau I.
Suwarrow I.
Palmyra I.
Christmas I.
Fanning I.
Canton I.
Phoenix Islands
Line Islands
Johnston I.
Hawaiian Islands
Midway I.
Wake I.
Marcus I.
Bonin Is.
Volcano Is.
Marianas
Guam
Caroline Is.
Marshall Is.
Gilbert Is.
Ellice Is.
Solomon Is.
New Hebrides
New Caledonia
Loyalty Is.
Norfolk I.
Lord Howe I.
Macquarie I.
Auckland Is.
Campbell I.
Antipodes Is.
Bounty Is.
Chatham Is.
Kermadec Is.
Tasman Sea
Coral Sea
Solomon Sea
Arafura Sea
Timor Sea
Banda Sea
Celebes Sea
Sulu Sea
Java Sea
Flores Sea
Bali Sea
Molucca Sea
Ceram Sea
Halmahera
Mindanao
Luzon
Taiwan
Ryukyu Is.
Kyushu
Honshu
Hokkaido
Kuril Is.
Aleutian Is.
Alaska
Yukon
Mackenzie
Hudson Bay
Greenland
Iceland
Norway
Sweden
Finland
Russia
Europe
Asia
Africa
Australia
New Zealand
Antarctica
Arctic Ocean
Pacific Ocean
Atlantic Ocean
Indian Ocean
Mediterranean Sea
Black Sea
Caspian Sea
Red Sea
Persian Gulf
Arabian Sea
Bay of Bengal
South China Sea
East China Sea
Yellow Sea
Sea of Japan
Sea of Okhotsk
Bering Sea
Bering Strait
Chukchi Sea
Beaufort Sea
Baffin Bay
Davis Strait
Labrador Sea
Gulf of St. Lawrence
Hudson Strait
Gulf of Mexico
Caribbean Sea
Gulf of Alaska
Gulf of Guinea
Gulf of Aden
Gulf of Oman
Gulf of Thailand
Gulf of Tonkin
Gulf of Carpentaria
Great Barrier Reef
Torres Strait
Cook Strait
Tasman Sea
Coral Sea
Solomon Sea
Arafura Sea
Timor Sea
Banda Sea
Celebes Sea
Sulu Sea
Java Sea
Flores Sea
Bali Sea
Molucca Sea
Ceram Sea
Halmahera
Mindanao
Luzon
Taiwan
Ryukyu Is.
Kyushu
Honshu
Hokkaido
Kuril Is.
Aleutian Is.
Alaska
Yukon
Mackenzie
Hudson Bay
Greenland
Iceland
Norway
Sweden
Finland
Russia
Europe
Asia
Africa
Australia
New Zealand
Antarctica
Arctic Ocean
Pacific Ocean
Atlantic Ocean
Indian Ocean
Mediterranean Sea
Black Sea
Caspian Sea
Red Sea
Persian Gulf
Arabian Sea
Bay of Bengal
South China Sea
East China Sea
Yellow Sea
Sea of Japan
Sea of Okhotsk
Bering Sea
Bering Strait
Chukchi Sea
Beaufort Sea
Baffin Bay
Davis Strait
Labrador Sea
Gulf of St. Lawrence
Hudson Strait
Gulf of Mexico
Caribbean Sea
Gulf of Alaska
Gulf of Guinea
Gulf of Aden
Gulf of Oman
Gulf of Thailand
Gulf of Tonkin
Gulf of Carpentaria
Great Barrier Reef
Torres Strait
Cook Strait


OCTOBER 1-31, 1972
FIG.11-DEVIATION OF SEA SURFACE TEMP. (°F) FROM OCTOBER 1971. SHADED AREAS COLDER IN 1972.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF PANAMA
GULF OF CALIFORNIA
GALAPAGOS IS.
MARQUESAS
PHOENIX ISLANDS
ORION ISLANDS
SAMOA ISLANDS
COOK ISLANDS
TONGA ISLANDS
TUBUAI OR AUSTRAL IS.
BERMUDEZ IS.
Guaymas
Mazatlan
San Blas
Corrientes
Acapulco
Salina Cruz
Champerico
Corinto
Panama
Colon
Guayaquil
Lima
Callao
Pisco
Chala
Easter I.
Juan Fernandez
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
10°
20°
30°
40°


SEA SURFACE TEMPERATURE °F.
OCTOBER 1-15, 1972
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES CENTER
P. O. BOX 271
LA JOLLA, CALIFORNIA 92037
714-453-2820
TEMPERATURE CONVERSION
32°F 40° 50° 60° 70° 80° 90°F
0°C 10° 20° 30°C
NOTE: Dashed lines indicate positions of 60° and 64° isotherms for 1971
VANCOUVER I.
C. BLANCO
C. MENDOCINO
DAVIDSON
PT. CONCEPTION
SAN JOAN
SHOWBOAT
GUADALUPE I
ERBEN BK.
54
56
52
58
55
60
62
54
64
66
68
70
72
72
74
76
78
50°
45°
60°
1971
4°
.971
40°
35°
30°
135°
130°
125°
120°
115°

FISHING INFORMATION – supplement



UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
La Jolla, California 92037

FISHING INFORMATION
BULLETIN NO. 72-8

MOST FISHING EFFORT OFF CENTRAL CALIFORNIA

Commercial boats were concentrated from Willapa Bay to Cape St. James and Point Arena to Morro Bay during the ast 2 weeks. Fishing, however, was spotty for bait and jig boats.

Poor weather hampered much of the jig boat fleet during the last 2 weeks of September. Daily scores of 100 fish per oat were reported between Cape Scott, Vancouver Island and Cape St. James, Queen Charlotte Islands on September 18 and 9; but high winds forced many boats into port on September 20. When winds abated, many boats left this area and headed outh. The few boats that have remained in Canadian waters were getting about 100 large fish a day by October 2nd in rough eas. The jig boats that moved south from Vancouver Island had scores of 100-150 fish per boat 140-150 miles west of Cape lattery and Destruction Island on September 24 and 25. Winds increased on September 26 and these boats left the area.

Bait boats also had good scores off LaPush and Willapa Bay until September 26. On September 18, they averaged -6 tons but,by the end of September only a few bait boats were working off the Pacific Northwest.

Fishing was spotty off Oregon. Some jig boats were working 25 miles west of Heceta Head but average scores emained low.

Many jumping and schooled albacore were seen from Point Arena to Morro Bay during the past 2 weeks. Poor eather again prevented any significant fishing effort and on only a few days were scores better than 100 fish. By September 3, most of the boats were at sea with average scores of 20-50 fish per boat per day.

Bait boats were more successful than jig boats off central California, but fishing for them was also spotty. Some ood scores were reported 120 miles west of San Francisco, near Guide Seamount and 10-30 miles west of Morro Bay during ie past 2 weeks. On October 2, most of the bait boats were catching albacore averaging 20-22 pounds off Morro Bay.

Albacore fishing effort and catches by San Diego sport boats have decreased substantially.

About 28,000 tons of albacore have been landed on the west coast. This is about 7,000 tons more than for the same eriod last year.

Seasonal cooling continued, during the September 16-30 period, a little above the normal rate in all coastal areas xcept the sector from Cape Blanco northward to the Oregon border. Except in this sector, negative departures from long-rm averages were generally larger and more extensive north of 40° N than in the first part of the month. Negative tempera-re anomalies also increased off southern California while positive temperature anomalies off Baja California became smaller. Weather conditions were affected by changing pressure systems beginning with a dominant high centered at 40° N, 140° W on eptember 16 and 17, followed by a low off southeast Alaska during September 19-22. Another, weaker low developed west of an Francisco on September 26 and the remainder of the month featured a high pressure ridge extending northeastward across ritish Columbia and Washington.

Pressure gradients appear about normal so that weather conditions should remain favorable along the Oregon nd California coastal areas. The 60° F (15.6° C) isotherm will continue to move southward so that waters off the Washington coast will continue to cool.

According to information supplied by the Extended Forecast Division of the National Weather Service, the outlook for ie month of October shows the mean position of the eastern Pacific subtropical high centered near 35° N, 140° W (1020 milli-ars), which is about normal.

ctober 2, 1972

Staff, Fishery-Oceanography Investigations
R. Michael Laurs, Leader

UNITED STATES DEPARTMENT OF COMMERCE
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FISHING INFORMATION
BULLETIN NO. 72-9

ALBACORE CATCHES DECREASE AS SEASON APPROACHES END

Many jig and bait boats were tying up for the season because of continued slow and spotty fishing along the entire west coast through the first 2 weeks of October. The few boats that are still fishing are off central California and northern Washington.

Bait boats in central California waters were able to get occasional good scores in widely scattered areas. Jig boats in these areas had poor fishing; their best catch for the past 2 weeks was 25-30 fish per boat on October 2 with a high score of about 1 ton on October 3 south of Davidson Seamount. Typically, October winds in this area reduced fishing effort.

Albacore continued to appear off northern Washington, but winds prevented much fishing in this area. Good catches were reported by a small number of jig boats fishing about 180 miles west of Destruction Island on October 8 and 9 where the high score was about 500 fish. When winds decreased, spotty catches on large fish were recorded by boats in this area during the first 2 weeks of October.

On October 2 and 3, San Diego sport boats averaged 4 and 5 fish per passenger, respectively, while fishing 60 miles southwest of Point Loma, but catches gradually dropped to less than one fish per angler by October 11. Catches have remained small since then.

According to information supplied by the Extended Forecast Division of the National Weather Service, winds offshore southern Oregon and northern and central California are expected to be light to moderate during the last half of October. An upper level high pressure ridge over the Pacific Northwest should divert most storm systems to the north of the Washington coastal area during this same period, although occasional weather fronts are likely to move inland over the coastal regions of Washington and Oregon.

Sea surface temperatures continued to follow the seasonal cooling trend during October 1-15 in most of the California Current region. The maximum decreases from the September 16-30 period occurred along the Baja California coast south to 25°N and also the region west of 130°W, between latitudes 45°N and 50°N. Temperatures rose up to 2°F (1°C) in waters out to 200 miles off central California and 50-300 miles off southern California. Consequently, temperatures in the 1st half of October were above normal off California and Baja California, and below normal off Oregon, Washington and British Columbia. This condition developed due to the influence of a weak low pressure cell west of central California, which inhibited coastal upwelling, in conjunction with high pressure centered north of 40°N and east of 140°W during most of the period.

An estimated 29,000 tons of albacore have been landed on the west coast for this year. This is more than 2,000 tons greater than last year's estimated total landings of 26,700 tons.

This is the final 15-day albacore summary and extended weather forecast for this year. A resumé of the season will be included in "Fishing Information" at a later date.

The National Marine Fisheries Service would like to thank the following individuals and groups for their support in the albacore advisory program: cooperating fishermen, fish buyers, canneries, the Western Fishboat Owners Association, Navy Fleet Numerical Weather Central (Monterey, California), Extended Forecast Division of the National Weather Service, Oregon Fish Commission, California Department of Fish and Game, KRED Eureka, KFX Astoria, Pacific Northwest Bell, WWD and many others. Any comments or suggestions which may improve our daily broadcasts, 15-day sea-surface temperature charts and/or fish bulletins will be welcomed.

October 16, 1972

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